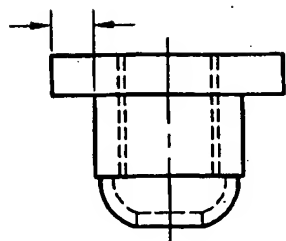
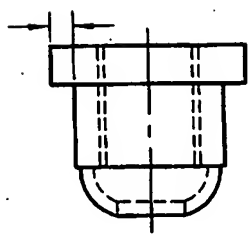
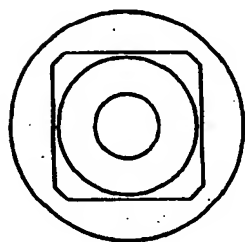


Figure 1



FJT1



FJT5

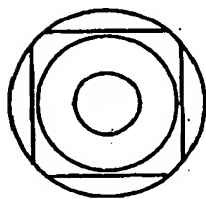
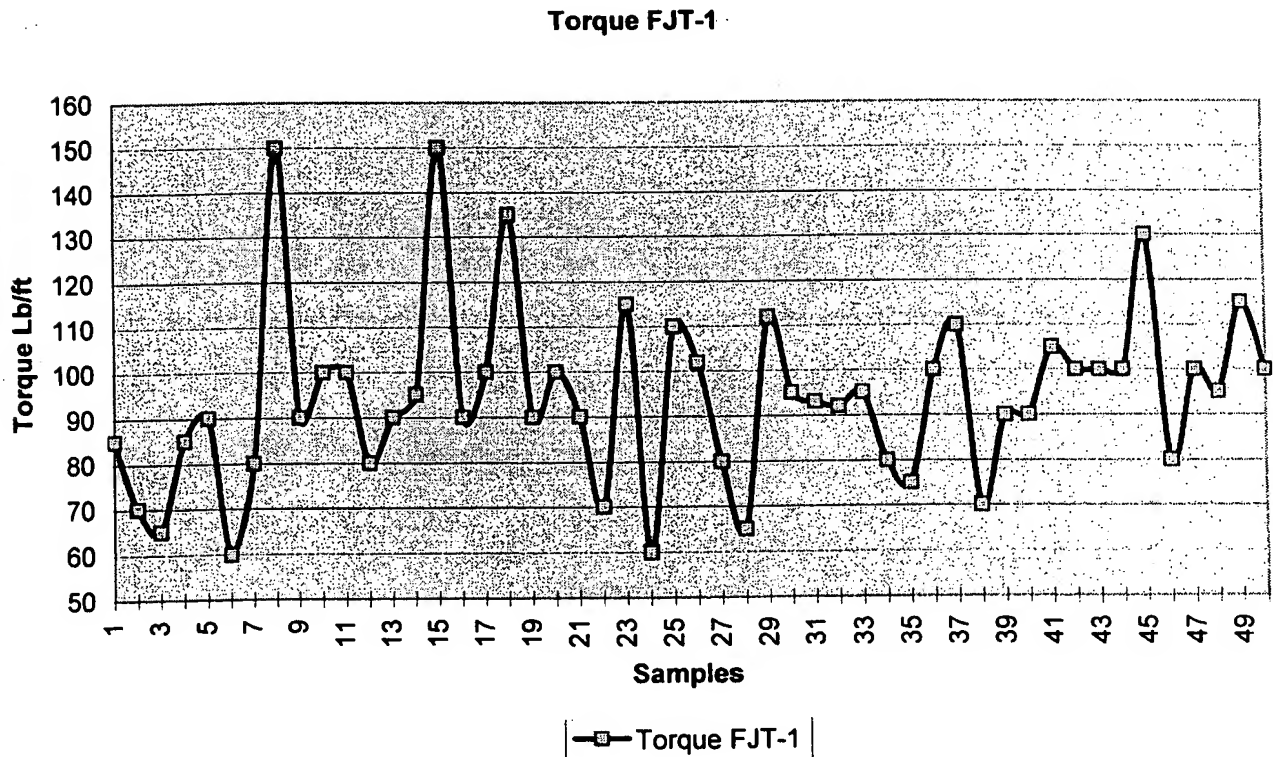


Figure 2

# **TORQUE STUDY "FJT-1"**

1.	85	11.	100	21.	90	31.	93	41.	105
2.	70	12.	80	22.	70	32.	92	42.	100
3.	65	13.	90	23.	115	33.	95	43.	100
4.	85	14.	95	24.	60	34.	80	44.	100
5.	90	15.	150	25.	110	35.	75	45.	130
6.	60	16.	90	26.	102	36.	100	46.	80
7.	80	17.	100	27.	80	37.	110	47.	100
8.	150	18.	135	28.	65	38.	70	48.	95
9.	90	19.	90	29.	112	39.	90	49.	100
10.	100	20.	100	30.	95	40.	90	50.	115

Average:	<b>94,5</b>
Std Deviation:	<b>19,6</b>
Average Range:	<b>14,1</b>



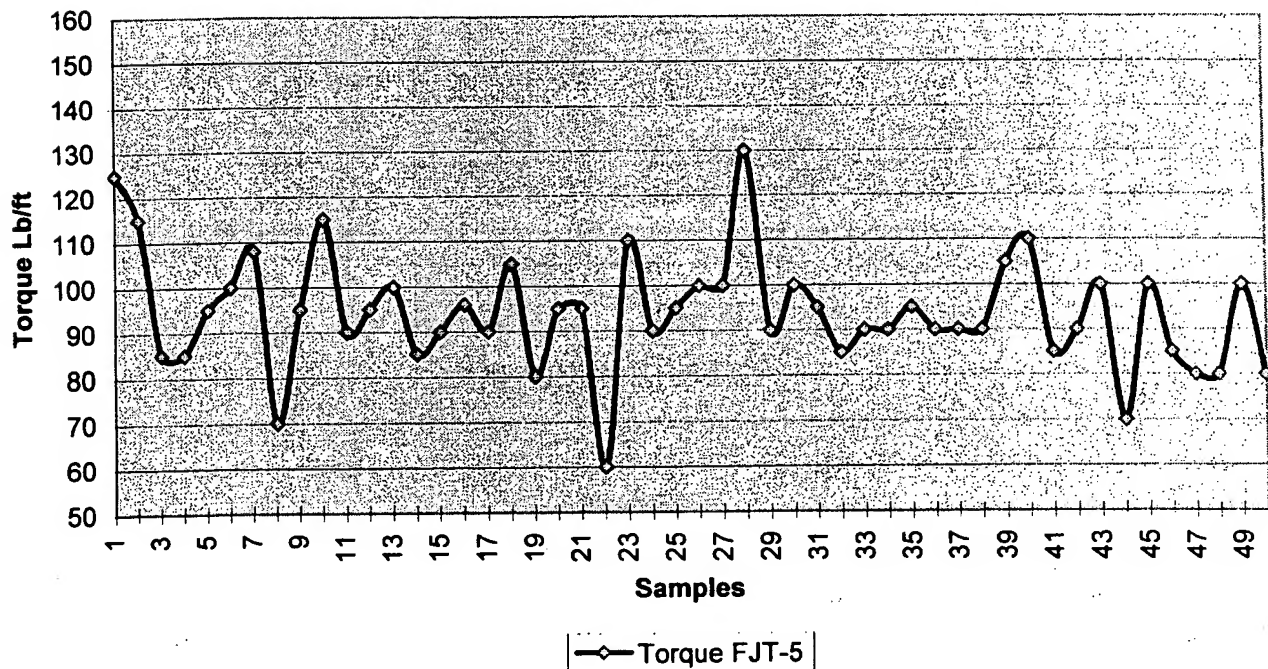
**FIGURE 3**

# **TORQUE STUDY "FJT-5"**

1.	125	11.	90	21.	95	31.	95	41.	85
2.	115	12.	95	22.	60	32.	85	42.	90
3.	85	13.	100	23.	110	33.	90	43.	100
4.	85	14.	85	24.	90	34.	90	44.	70
5.	95	15.	90	25.	95	35.	95	45.	100
6.	100	16.	96	26.	100	36.	90	46.	85
7.	108	17.	90	27.	100	37.	90	47.	80
8.	70	18.	105	28.	130	38.	90	48.	80
9.	95	19.	80	29.	90	39.	105	49.	100
10.	115	20.	95	30.	100	40.	110	50.	80

Average:	<b>94,0</b>
Std Deviation:	<b>12,9</b>
Average Range:	<b>9,4</b>

**Torque FJT-5**



**FIGURE 4**

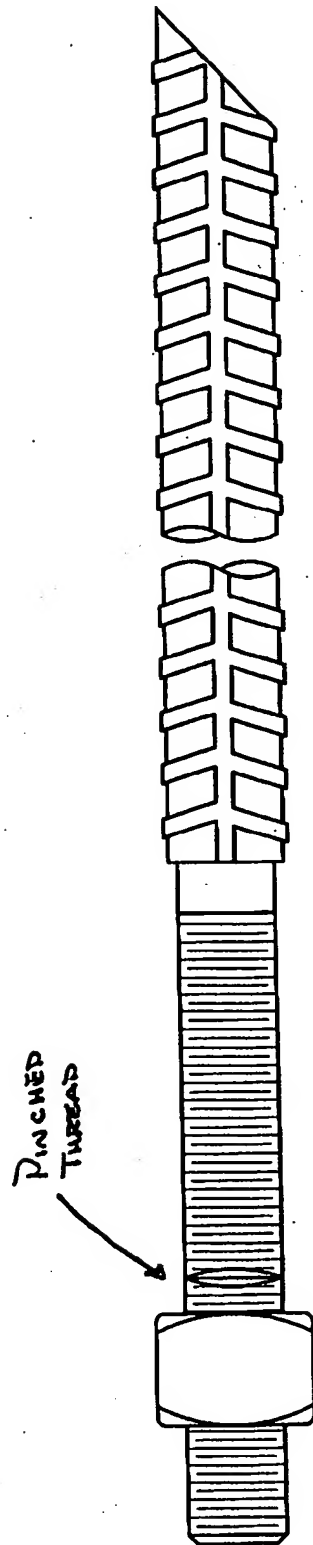


Figure 5

## TORQUE STUDY "PINCH"

1.	75	11.	80	21.	80	31.	110	41.	85
2.	70	12.	75	22.	70	32.	70	42.	75
3.	75	13.	75	23.	65	33.	60	43.	60
4.	65	14.	60	24.	65	34.	60	44.	75
5.	75	15.	75	25.	60	35.	55	45.	110
6.	80	16.	90	26.	65	36.	65	46.	60
7.	85	17.	75	27.	85	37.	95	47.	60
8.	60	18.	65	28.	50	38.	60	48.	65
9.	75	19.	55	29.	80	39.	65	49.	90
10.	60	20.	65	30.	75	40.	80	50.	80

Average:	72,2
Std Deviation:	12,8
Average Range:	10,1

### Torque Pinch

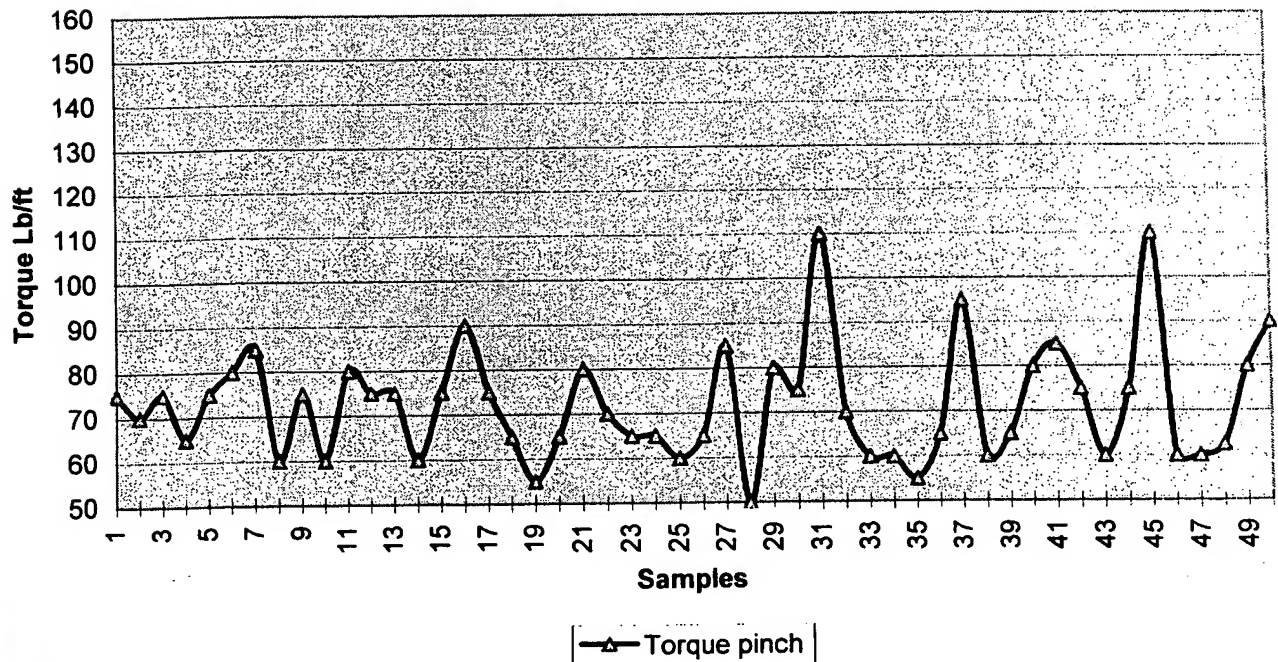


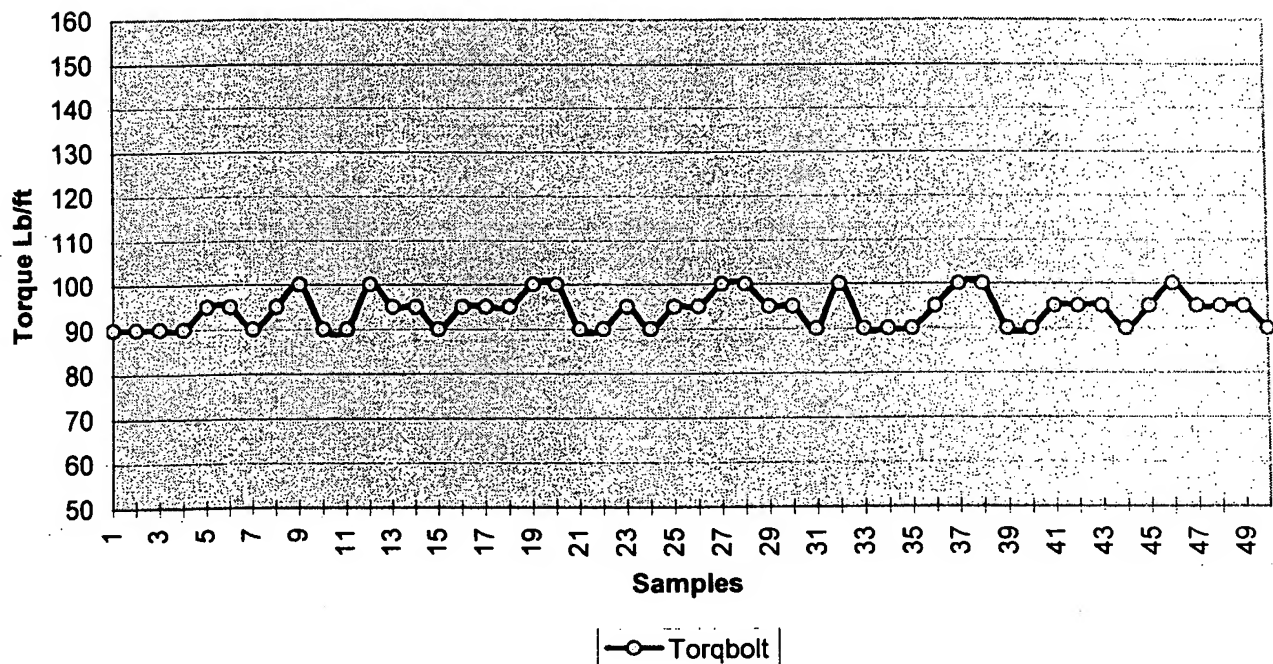
FIGURE 6

## TORQUE STUDY "TORQBOLT"

1.	90	11.	90	21.	90	31.	90	41.	95
2.	90	12.	100	22.	90	32.	100	42.	95
3.	90	13.	95	23.	95	33.	90	43.	95
4.	90	14.	95	24.	90	34.	90	44.	90
5.	95	15.	90	25.	95	35.	90	45.	95
6.	95	16.	95	26.	95	36.	95	46.	100
7.	90	17.	95	27.	100	37.	100	47.	95
8.	95	18.	95	28.	100	38.	100	48.	95
9.	100	19.	100	29.	95	39.	90	49.	95
10.	90	20.	100	30.	95	40.	90	50.	90

Average:	<b>94,1</b>
Std Deviation:	<b>3,7</b>
Average Range:	<b>3,1</b>

**Torqbolt**



**FIGURE 7**

Stewart Torqbolt VS FJT1, FJT5, PINCH

TORQBOLT VS FJT-1, FJT-5, PINCH

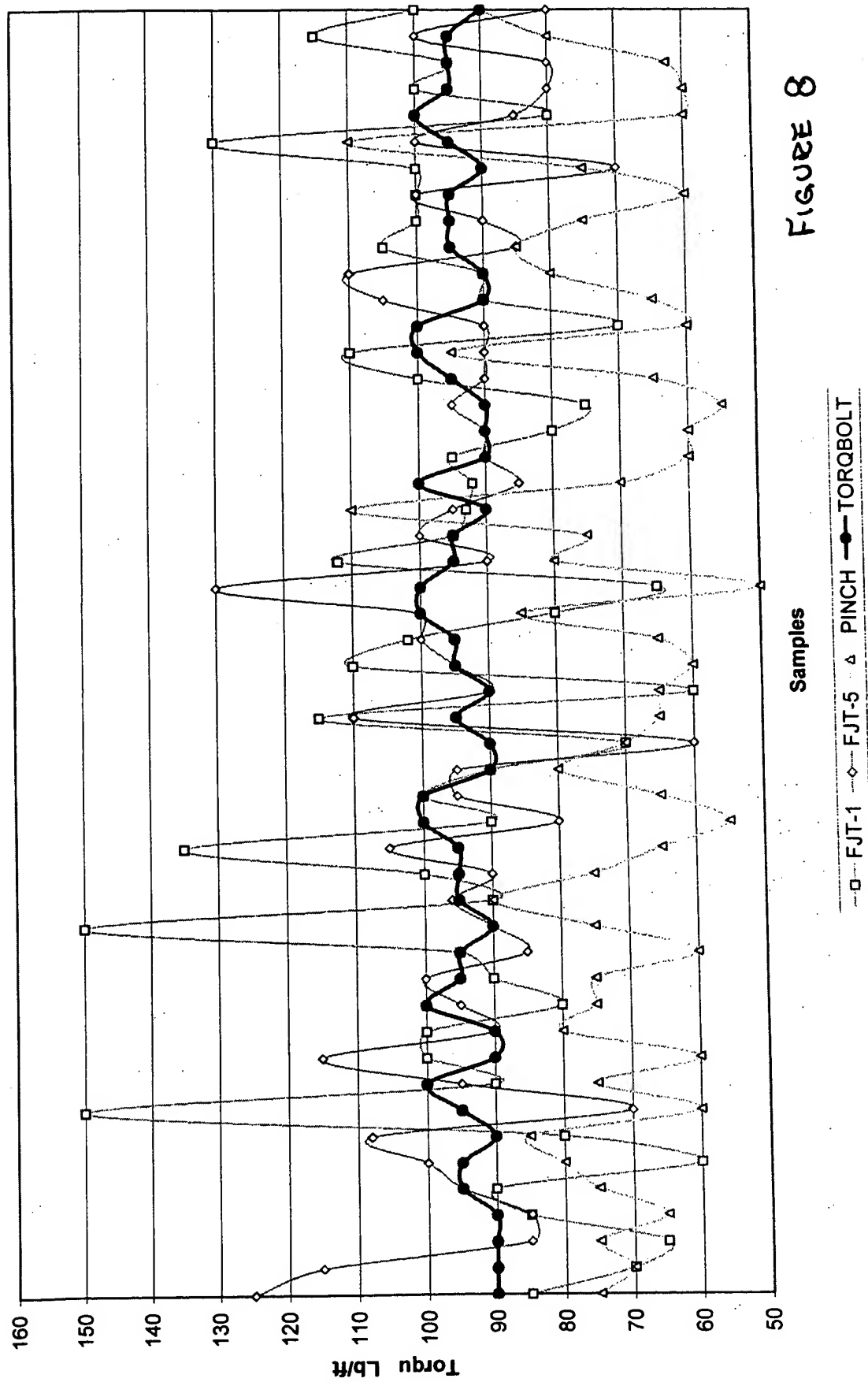


FIGURE 8

test-torqbolt-pinch-fjt1-fjt5



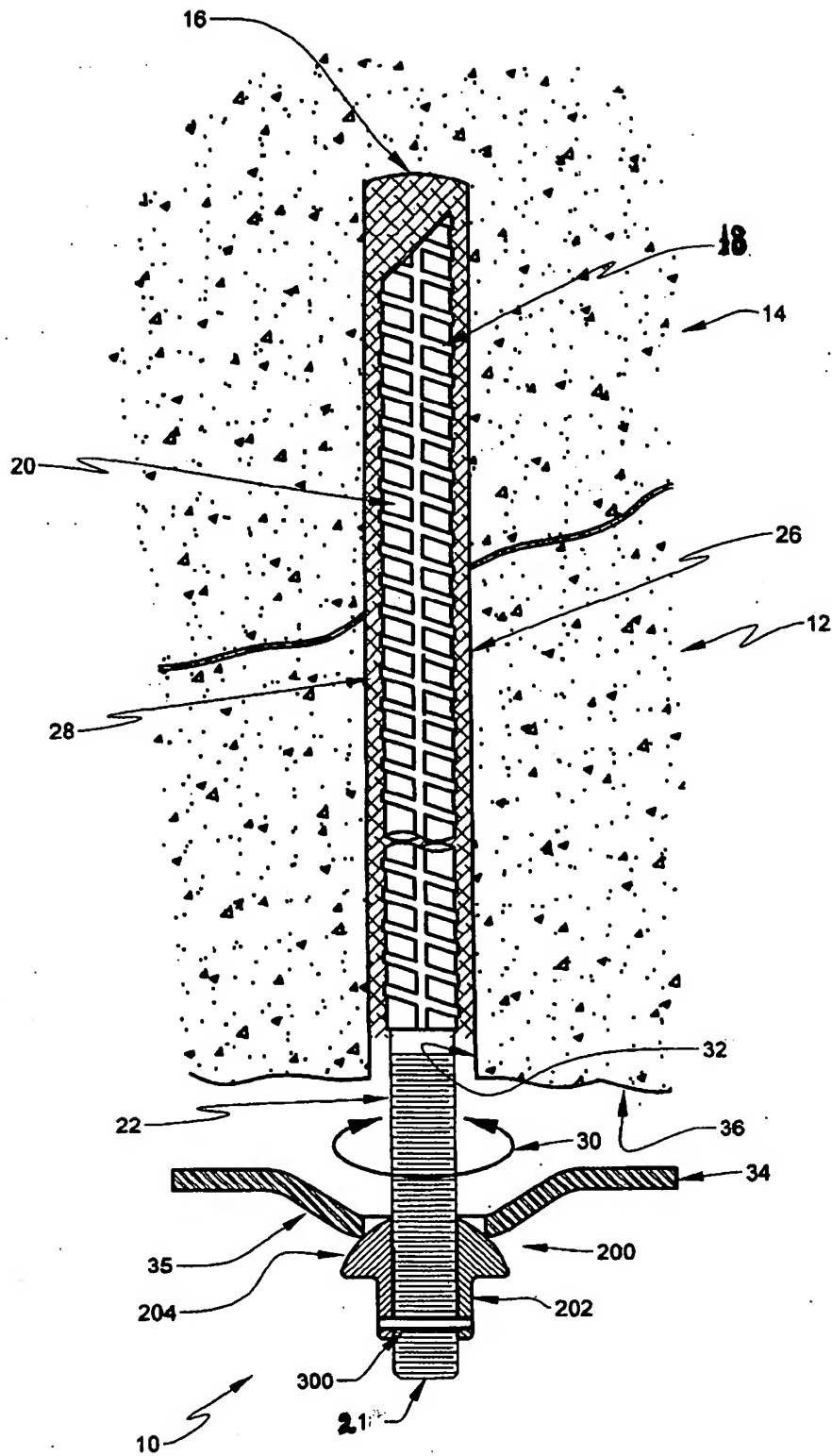


Figure 9

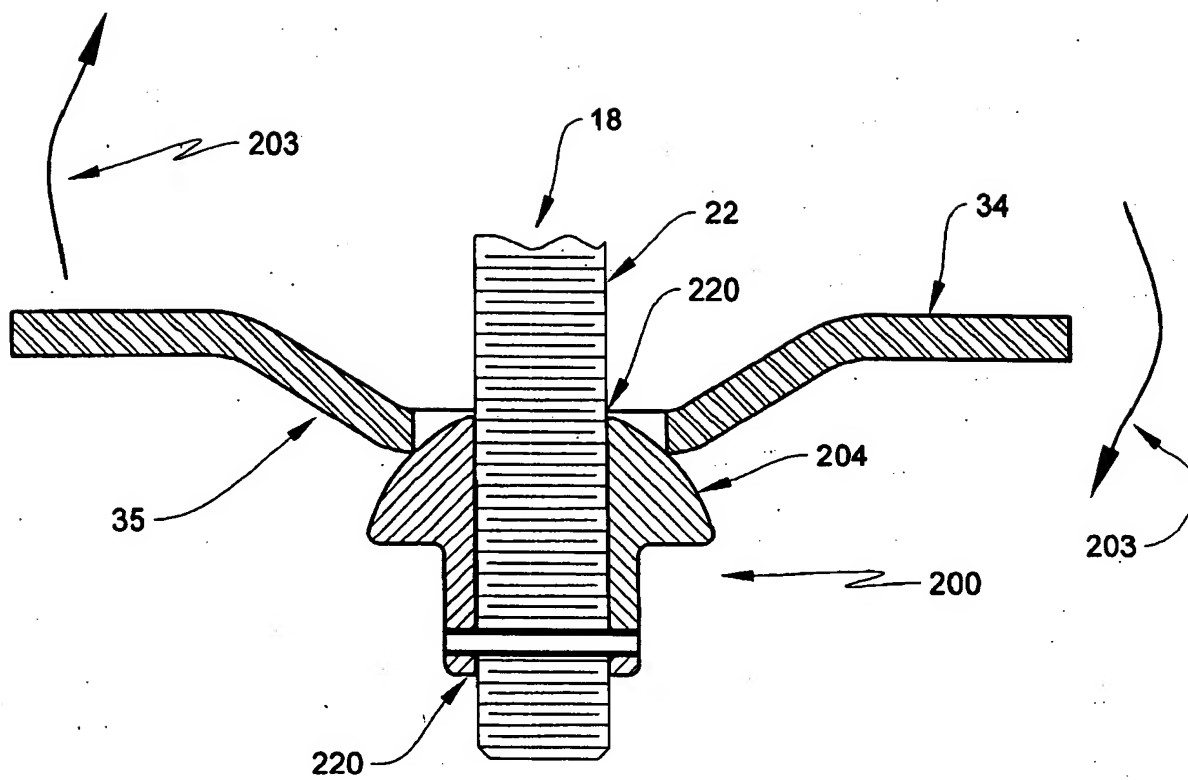


Figure 10

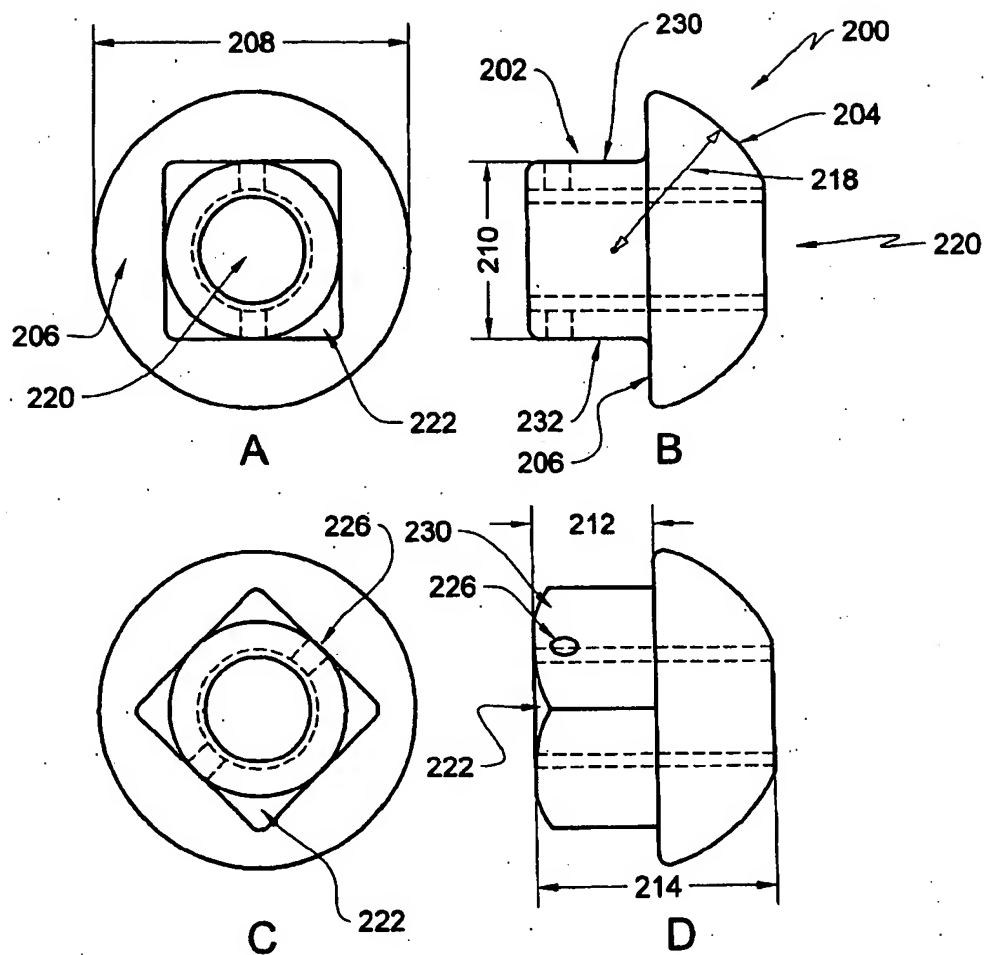


Figure 11

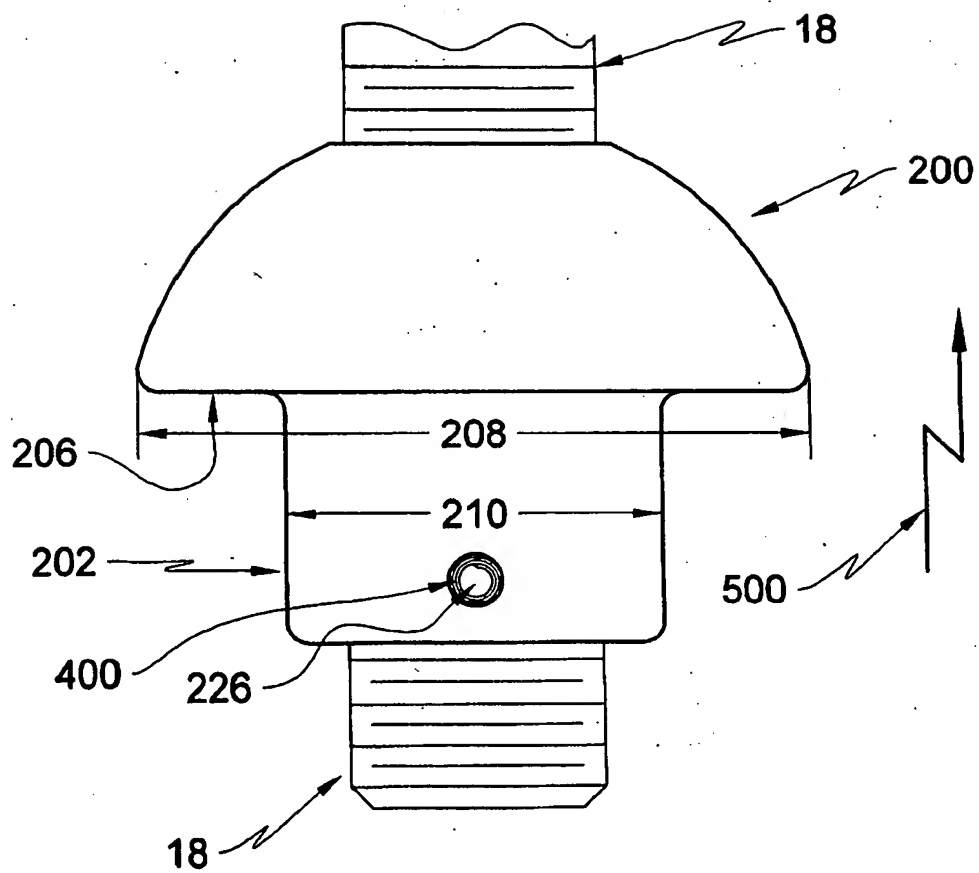


Figure 12

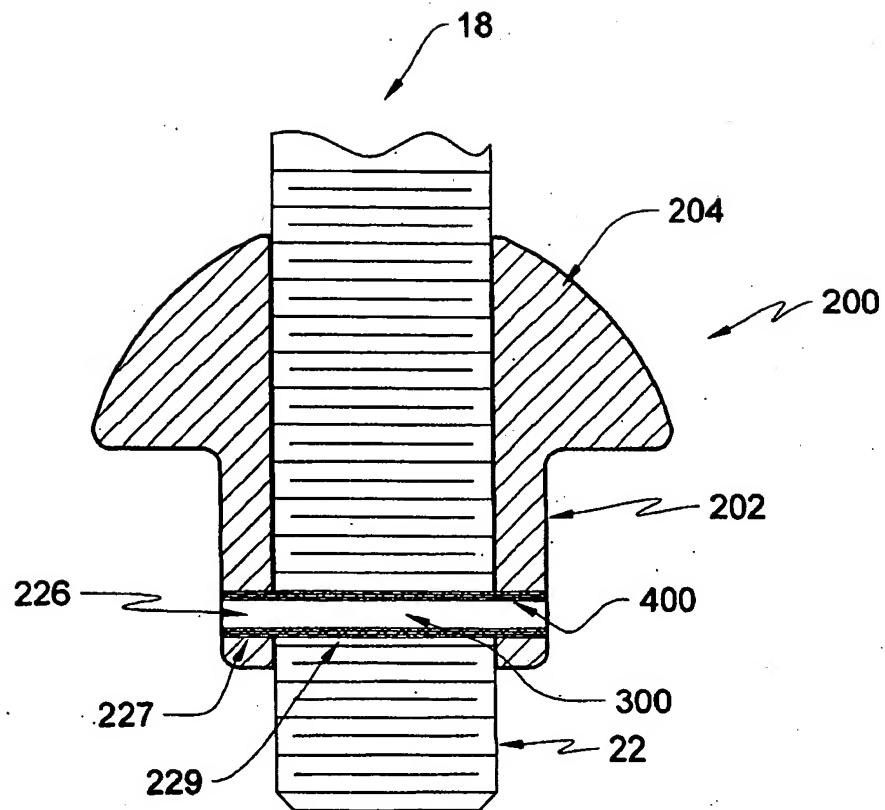
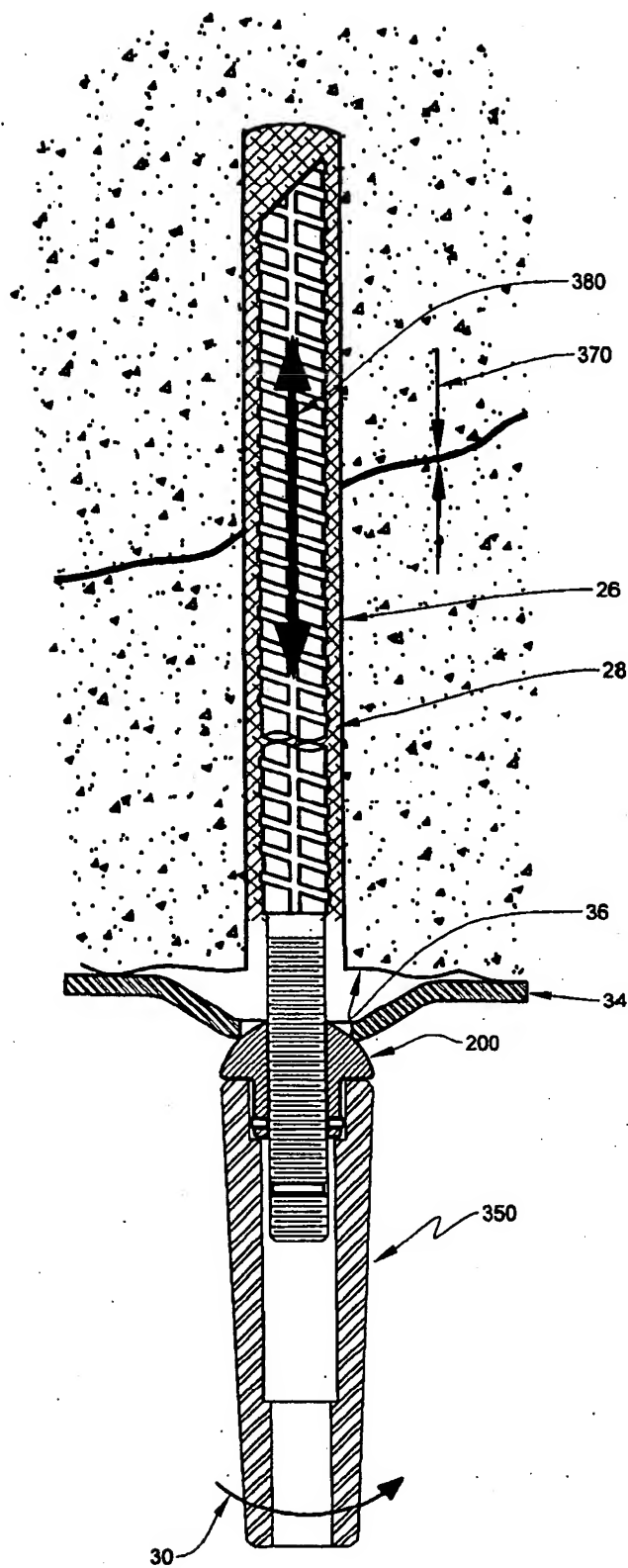


Figure 13



### Figure 14

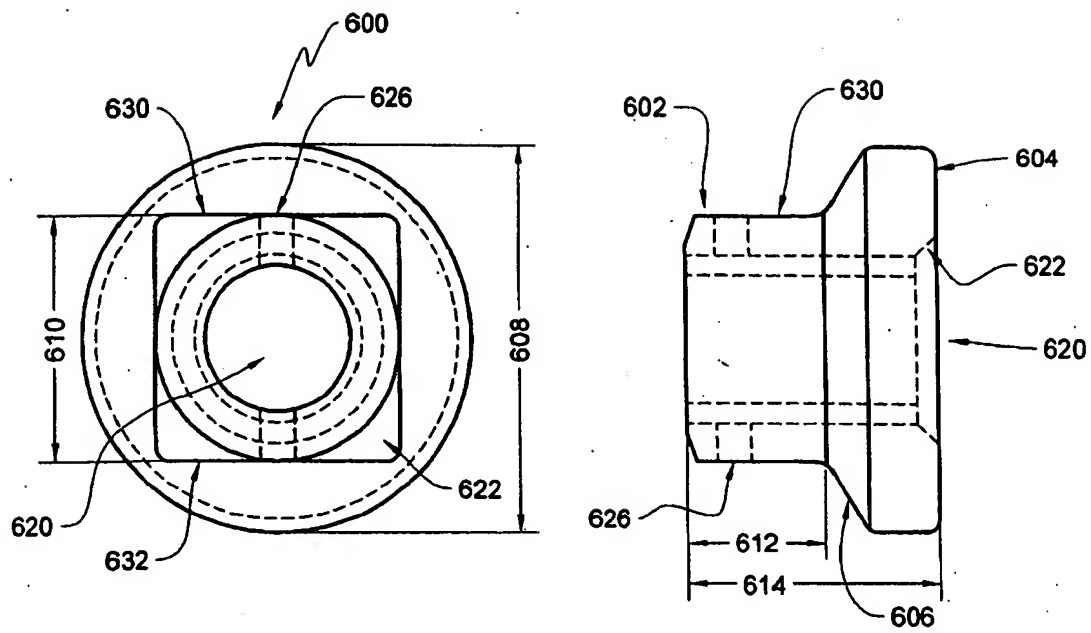


Figure 15

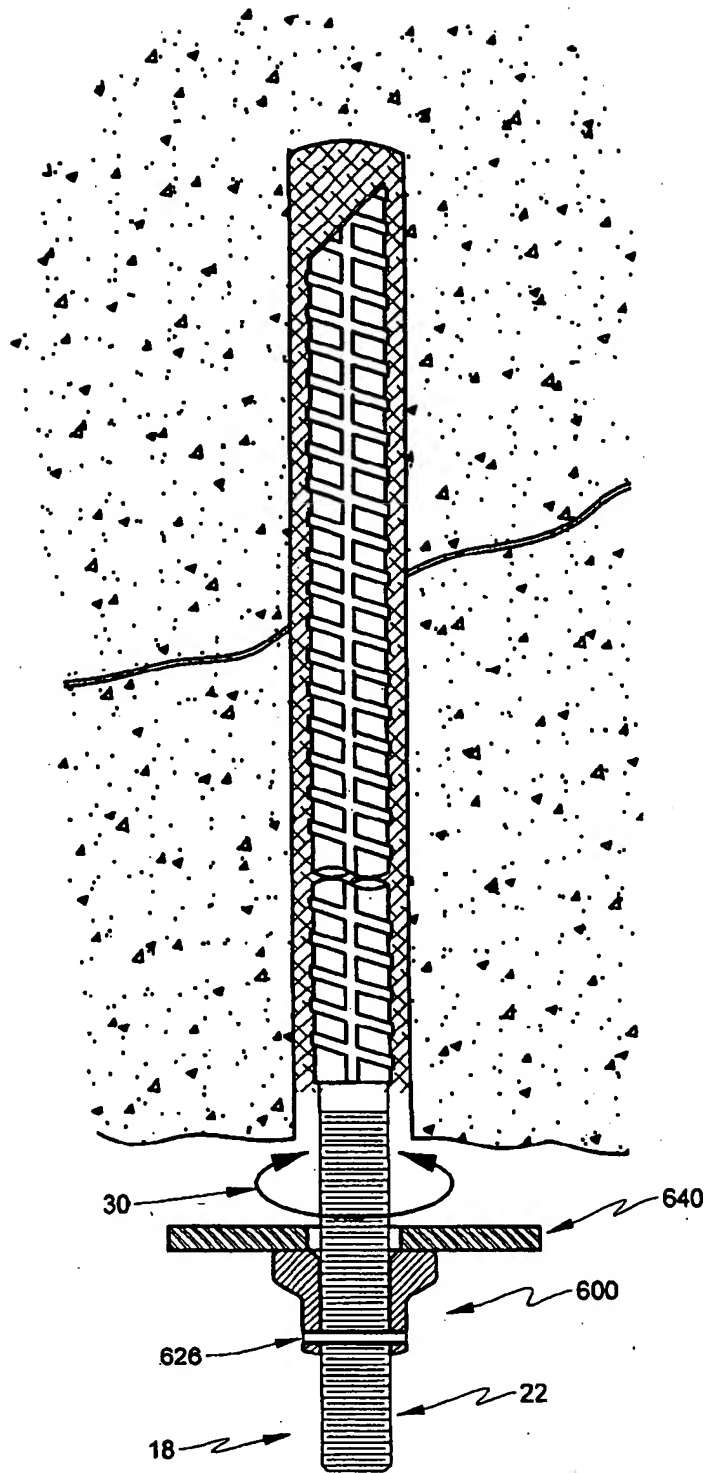


Figure 16



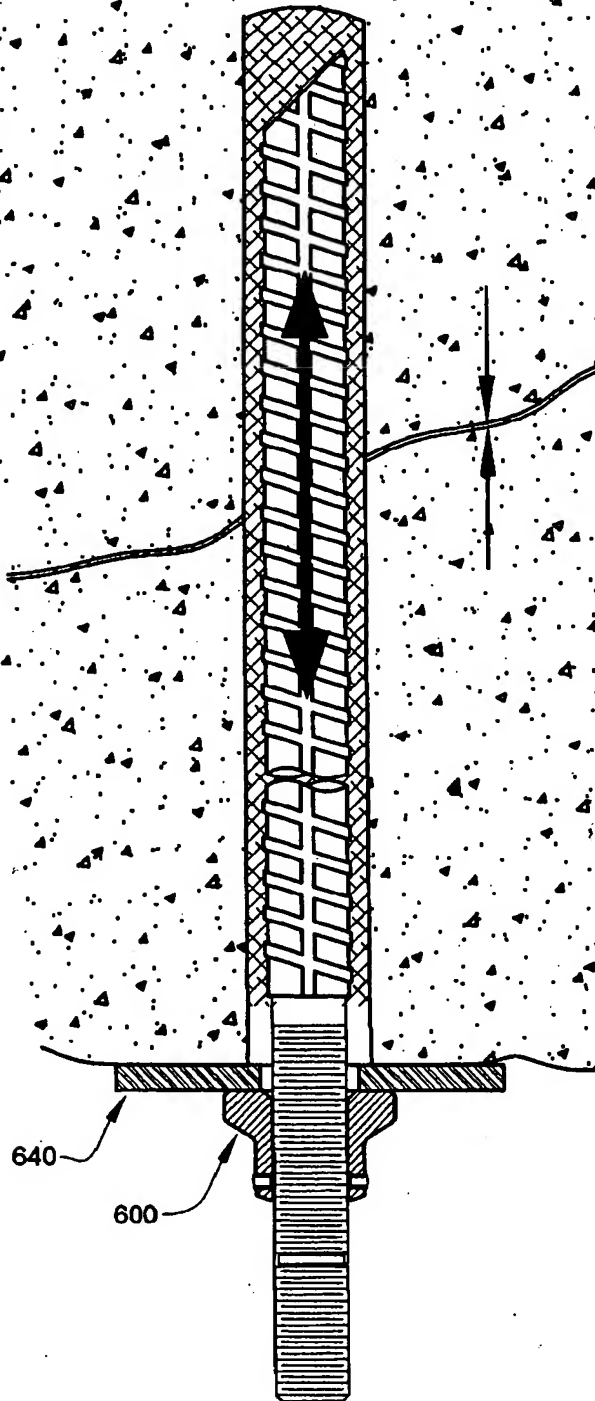


Figure 17

Figure 18

[illegible]